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DIRECT TESTIMONY

OF

JAMES M. LANDRETH

ON BEHALF OF

SOUTH CAROLINA ELECTRIC & GAS COMPANY

DOCKET NO. 2002-002-E

**Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS AND POSITION WITH
SOUTH CAROLINA ELECTRIC & GAS COMPANY (SCE&G).**

A. James M. Landreth, 111 Research Drive, Columbia, South Carolina. I am employed by
South Carolina Electric & Gas Company as Vice President of Fossil and Hydro
Generation.

**Q. DESCRIBE YOUR EDUCATIONAL BACKGROUND AND YOUR BUSINESS
EXPERIENCE.**

A. I have a Bachelor of Science Degree in Textile Technology from North Carolina State
University in Raleigh, North Carolina and a MBA Degree from James Madison
University in Harrisonburg, Virginia. South Carolina Electric & Gas Company
employed me in February, 2000 as Manager of New Business Development for Fossil
and Hydro Operations. In May of 2001, I assumed the position as Vice President of
Fossil and Hydro Operations. In this position, I report directly to the President of South
Carolina Electric & Gas Company.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to review the operating performance of South Carolina
Electric & Gas Company's fossil units and GENCO's Williams Station during the
period March 1, 2001, through February 28, 2002.

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1 **Q. PLEASE GIVE A SHORT DESCRIPTION OF SCE&G'S FOSSIL AND HYDRO**
2 **ELECTRIC FACILITIES.**

3 A. SCE&G owns and/or operates fifteen (15) fossil fuel (coal and gas) generating plants
4 and six (6) hydroelectric generating plants. The total net summer generating capability
5 rating of these facilities is 3,876 megawatts.

6 **Q. PLEASE EXPLAIN TO THE COMMISSION SOUTH CAROLINA**
7 **GENERATING COMPANY ("GENCO") AND ITS RELATIONSHIP TO**
8 **SCE&G.**

9 A. South Carolina Generating Company, Inc., ("GENCO") was incorporated October 1,
10 1984. GENCO owns the Williams Electric Generating Station. GENCO sells to
11 SCE&G the entire capacity and output from the Williams Station under a Unit Power
12 Sales Agreement approved by the Federal Energy Regulatory Commission.

13 **Q. HOW MUCH ELECTRICITY WAS GENERATED BY SCE&G IN THE**
14 **TWELVE MONTH REVIEW PERIOD?**

15 A. In the review period, SCE&G generated 22,474,100 megawatt hours of energy. Of this
16 energy, our fossil steam plants generated 72%; gas turbine and hydro facilities
17 generated 4%; and our nuclear plant generated 24%.

18 **Q. PLEASE SUMMARIZE THE PERFORMANCE OF THE FOSSIL UNITS.**

19 A. Overall, SCE&G's fossil units have operated efficiently and dependably in the twelve-
20 month period of March 1, 2001 through February 28, 2002.

21 Our fossil units have operated better than the North American Electric Reliability
22 Council ("NERC") national 5 year (1996-2000) average for forced outage rates and
23 with reasonable heat rates. These measures will be covered later in my testimony.

24 **Q. PLEASE DISCUSS SCE&G'S SCHEDULED OUTAGES FOR THE PERIOD**
25 **UNDER REVIEW.**

1 A. Major outages were scheduled and completed at Canadys#2, McMeekin #1, and
2 Urquhart #1, #2, & #3 Steam Plants and at Fairfield Pumped Storage. Two of the eight
3 units at Fairfield Pumped Storage were taken out of service for an upgrade to increase
4 their efficiency and capacity (average increase of 4 Mws per unit). This completed the
5 second phase of a four-phase plan to upgrade all eight units (four of eight units
6 completed). The major scheduled outages for Canadys#2, McMeekin #1, and Urquhart
7 #1 & #2 were for turbine/generator overhauls, equipment maintenance, and prep work
8 for the re-powering project at Urquhart. Of significant interest involving these outages,
9 is the duration of planned outages for Urquhart #1 and #2 re-powering. During the
10 review period Urquhart #1 was out of service for approximately 6 months and #2 for
11 approximately 7 months. These units are scheduled to return to service by June 1, 2002.

12 **Q. WHAT HAS BEEN SCE&G'S SYSTEM FORCED OUTAGE RATE FOR THE**
13 **PERIOD UNDER REVIEW?**

14 A. SCE&G experienced a low system forced outage rate of 3.32% in the review period.
15 "Forced outage rate" is the percentage of the total hours that generating units are forced
16 out of service (for various reasons) compared with the total hours in service for a
17 period. The North American Electric Reliability Council ("NERC") national 5 year
18 (1996-2000) average for forced outage rate for similarly sized units is 4.71%.

19 SCE&G's fossil units completed this review period with only one major mechanical
20 problem, which occurred at our Urquhart #3 unit. After a crack was discovered in the
21 high-pressure turbine shell, the unit was taken off-line for further inspection and
22 evaluation. The turbine shell eventually had to be removed in order to complete the
23 weld repair. The unit has been returned to service.

24 **Q. PLEASE DISCUSS THE AVAILABILITY OF SCE&G'S FOSSIL PLANTS**
25 **DURING THE REVIEW PERIOD.**

1 A. SCE&G had an availability of its fossil plants of 77.27% for the review period.
2 Availability is the measure of the actual hours that the generation units are available
3 (overall readiness to provide electricity) divided by the total hours in the 12-month
4 review period. Availability is not affected by how the unit is dispatched or by the
5 demand from the system when connected to the grid. However, it is impacted by the
6 planned and maintenance shutdown hours. The North American Electric Reliability
7 Council ("NERC") national 5 year (1996-2000) average for availability from similar
8 sized pulverized coal-fired units was 86.81%. SCE&G's availability was lower than the
9 NERC national 5 year average due to the timing and duration of the normal planned and
10 maintenance shutdown hours associated with equipment maintenance outages and the
11 preparation for the new combined cycle units at Urquhart Station.

12 **Q. WHAT HAS BEEN THE HEAT RATE OF THE FOSSIL UNITS DURING THE**
13 **REVIEW PERIOD?**

14 A. Heat rate is a way to measure thermal efficiency of a power plant fuel cycle. It is the
15 number of BTU's of fuel required to generate one (1) kilowatt-hour of electricity.
16 The combined steam units heat rate for the period March 1, 2001 through February 28,
17 2002 is 9741 Btu/kWh. Cope Station had the best heat rate in our system at 9428
18 Btu/kWh followed by Williams Station at 9569 Btu/kWh.

19 **Q. IN OPERATING ITS FOSSIL AND HYDRO PLANTS, HAS SCE&G TAKEN**
20 **ALL REASONABLE STEPS TO MINIMIZE THE FUEL COST TO**
21 **CUSTOMERS?**

22 A. Yes. SCE&G has operated these plants as efficiently and reliably as reasonably
23 possible. By doing so, we have held our customers' costs, including fuel costs, to a
24 minimum. In the case of natural gas costs, we believe we have managed our
25 requirements well with our supplier. Mr. Flitter addresses the procurement of coal and
26 Number 2 fuel oil in his testimony.

1 **Q. DO YOU HAVE ANY CONCLUDING REMARKS?**

2 A. We are fortunate that we have had a low forced outage rate and a low heat rate during
3 this period. Such favorable results will not always be possible. Even with every
4 reasonable effort by the Company to prevent them, equipment problems and human
5 error may cause outages and availability problems from time to time, and simply are an
6 expected part of utility operations. In addition, environmental compliance mandates
7 have and will continue to drive our heat rates higher. An example of this, are
8 requirements to reduce nitrous oxide (NOx) air emissions. Low NOx burners are not as
9 efficient in burning the fuel and our future selective catalytic reduction (SCR) devices
10 will increase the demand on station service, thereby reducing unit efficiency.
11 However, SCE&G will continue to make every reasonable effort to minimize operating
12 problems and operate our units as efficiently as practical.
13 Overall, we are proud of the results we have achieved during the review period.

14 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

15 A. Yes.